MORPHOLOGY OF PLANT'S ROOT SYSTEM ALONG RIVERBANK AS A KEY FOR ECOLOGICAL BALANCER

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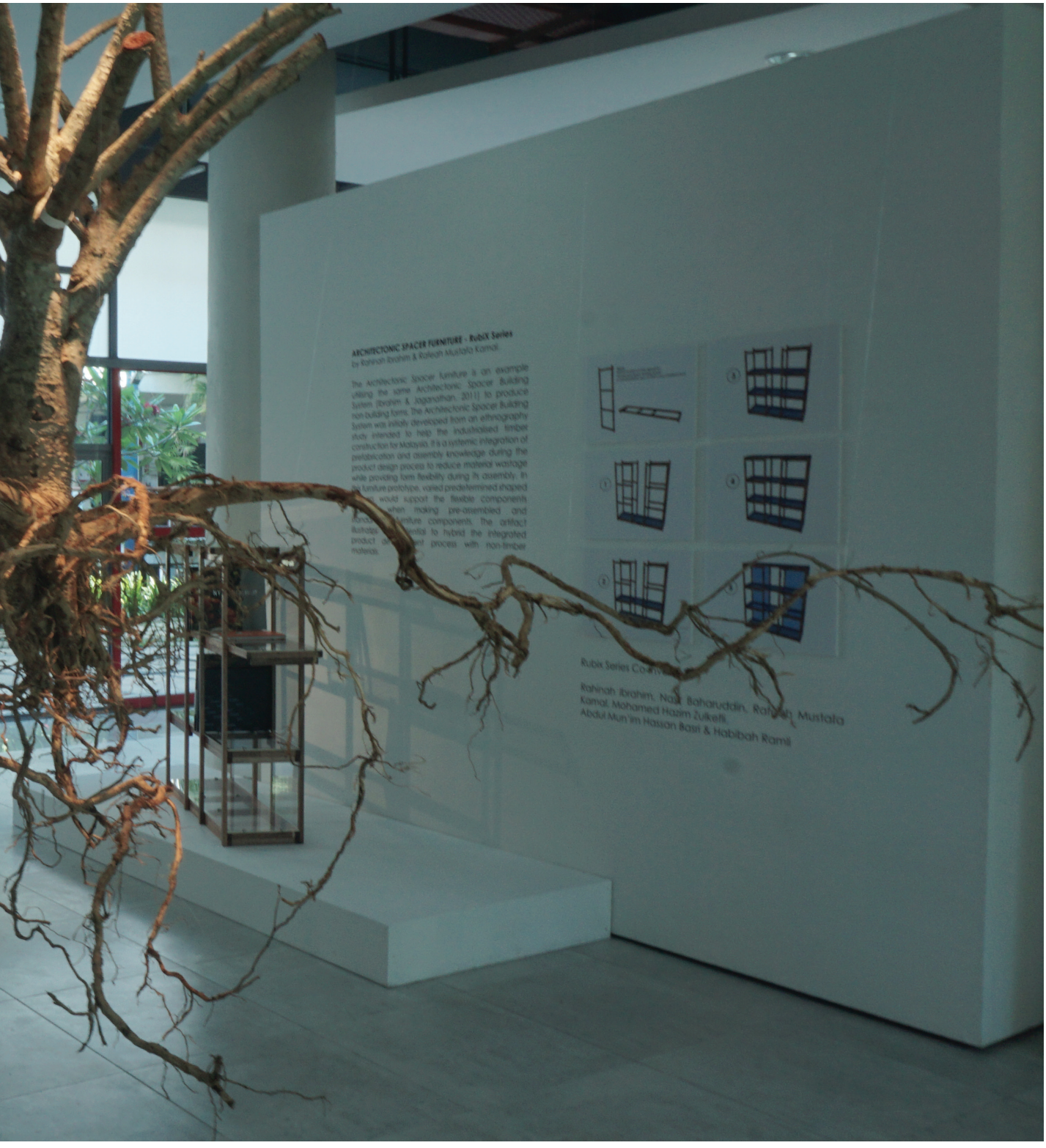
Historically, cities were created along the rivers but overtime many of those rivers in the cities have been neglected. The rivers become merely as drains for the urban storm water management. However, rivers in the cities could be ecological hubs where the river-bank and riparian wetland act as habitat for local flora and fauna. In addition, the riparian wetlands will also act as sponges to absorb and mitigate floodwater and water surface runoff. Rivers are actually an ecological balancer for the cities but one of the issues with river riparian is the river embankment erosion. River embankment erosions cause sedimentation thus making the river shallow and destroy the ecological functions of the rivers. Nevertheless, the most significant element that can to hold the river embankment is a plant. Plant rooting system holds soil tightly together but at the same time giving a space to liquid and gasses for environment. The question is; what type of plants is suitable as erosion controller? One of the factors to be considered is the plants root morphological system that is categorized by its distribution, widespread, depth and size. These different types of plants rooting system morphology have significantly proven to be able to control soil-water-embankment erosion. Essentially, it will become a starting point in creating a database for ecosystem-friendly plant for riverside settlement and as a flood controller in the tropics.

Root installation - 2016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